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General Headquarters, Washington, D. C.

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INDIAN CHILDREN OF THE DISPUTED CHACO

White men may die for the possession of their homeland, but these smiling Lengua children are absorbed in their pets—one a young peccary and the other a puppy. Lengua tribesmen, converted by missionaries, find employment in Paraguay's forest industries (See Bulletin No. 1).

HOW TEACHERS MAY OBTAIN THE BULLETINS

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"Marathon War" Resumed in the Chaco

SOUTH America's "Marathon War" has been resumed. Following a Christmas truce and unsuccessful peace parleys, Paraguay and Bolivia have re-opened hostilities in the Chaco, a huge lowland covered in part with grass and in part by forests, and lying nearly in the heart of the continent.

"Chaco, corrupted from Chucu, means 'hunting ground' in Quichua, the language of the Incas of Peru," says Harriet Chalmers Adams in a communication to the Washington, D. C., headquarters of the National Geographic Society. "Perhaps the ancient Peruvians hunted in this remote region beyond the Andes. Perhaps Incan tribes, fleeing from Spanish invaders, settled here, mingling their blood with that of the original inhabitants.

"One may see the Chaco from the wharves of Paraguay's capital, Asunción. It begins on the opposite, or western shore, of the Paraguay River. A vast, low-lying, swampy region, given over for the most part to primitive nomadic tribes, the Chaco is being reclaimed as a cattle country. It is the larger but more sparsely settled portion of Paraguay. All but 50,000 of the 800,000 inhabitants of Paraguay live on the eastern or Asunción shore, where the land is slightly rolling, savannas mingling with forest, and where tree-clad hills rise to an altitude of 1,500 feet.

Splendid Grazing Land

"Cattle-raising is Paraguay's chief industry, meat products leading among its exports. The Chaco, with its high native stock grasses and ample water supply, is a promising cattle country. There is probably no stock-raising region in the United States possessing such fine natural grazing lands, in spite of the Chaco's handicap of occasional floods. As the vast plains of Argentina are more and more given over to the cultivation of cereals, cattle ranges are bound to creep north to the grasslands of Paraguay and eastern Bolivia.

"The Paraguayan cowboy is known as the *chacrero*. Although usually smaller in stature than his cousins, the Argentine *gaucho* and the Chilean *huaso*, he is muscular and hardy, a typical roughrider. On a saddle trip we met a group of cowboys driving a band of cattle from the *rodeo*, where the herd is rounded up, to the river. I can still hear their ringing cattle call, 'Co-co-coa! Co-coa! Coa! Coa!'

"About nine miles above Asunción, on the Chaco side of the river, is a settlement of some commercial importance known as Villa Hayes (pronounced 'Ve-ya Eyes' in Spanish). It was named after a President of the United States, Rutherford B. Hayes, who, acting as arbitrator in determining the boundary between Argentina and Paraguay, rendered a decision highly favorable to the latter.

A Wood That Breaks Axes

"Modern explorers of the Chaco are the men engaged in the quebracho industry. It developed with the expansion of the Argentine railways, when quebracho logs were found to be just the thing for railway ties, and for fence posts on Argentine ranches. Quebracho (the word means 'ax-breaker') is a hardwood so durable that logs cut and left in the forest for twenty-five years have been found sound.

"The tree, which is native to the Paraguay and Paraná drainage basin, is scattered throughout the Chaco. Its gleaming, bright-green foliage somewhat resembles that of the mahogany of more northern forests. At an American quebracho and

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Photograph by Ewing Galloway

"CHACO HOCKEY" IS A ROUGH GAME

This sport, resembling our field hockey, was in vogue among the Lengua Indians of the Chaco long before the arrival of white men. In the background carandaí palms gently wave their fan leaves over a landscape that is typical of much of the region where Paraguay and Bolivia are fighting (See Bulletin No. 1).

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"Balboa of the Air" Gets Geographic Prize

MANY teachers and other educators who attended the sessions of the National Education Association in Chicago, Illinois, last summer will recall the name of Captain Albert W. Stevens, of the Army Air Corps, who lectured during the convention under the auspices of the National Geographic Society on the thrills and adventures of aërial photography.

This month it was announced from the Washington, D. C., headquarters of the National Geographic Society that Captain Stevens, sometimes called the "Balboa of the Air," had been awarded the Franklin L. Burr Prize of $1,000 for his accomplishments in the technical field of aërial photography on National Geographic Society expeditions in this country and in South America.

The prize was given particularly for Captain Stevens' achievement in obtaining, from an altitude of more than 26,000 feet during an eclipse of the sun, the first aërial photographs showing the moon's shadow on the earth. These photographs were made during the eclipse of August 31, 1932 (see illustration on opposite page).

Took "Flying Laboratory" to the Skies

With Lieutenant C. D. McAllister as a pilot, Captain Stevens took with him a veritable "flying laboratory" on this flight, including three huge aërial cameras, an instrument for recording the intensity of cosmic rays, and other high-altitude recording devices. More than forty photographic exposures were made during the eclipse alone, in addition to many other noteworthy pictures of cloud effects and ground views both before and after the eclipse.

Another important achievement of Captain Stevens, mentioned in the recent award, was the taking from a high altitude of the first photographs showing laterally the curvature of the earth. Framed enlargements of both the eclipse and the earth's curvature photographs are on exhibit in the National Geographic Society's new headquarters building on 16th Street, Washington, D. C.

The Franklin L. Burr Prize was established under the bequest of the late Mary C. Burr of Hartford, Connecticut, who bequeathed a fund to the National Geographic Society in memory of her father, the income to be awarded as cash prizes to those members of The Society's expeditions considered by the Board of Trustees to have done especially meritorious work in the field of geographic science.

Articles Containing Stevens' Pictures

Note: Some of Captain Stevens' most noteworthy photographs will be found in the following: "New York—An Empire Within a Republic," *National Geographic Magazine*, November, 1933; "Cuba—The Isle of Romance," September, 1933; "The Greatest Voyage in the Annals of the Sea," December, 1932; "A New World to Explore" also "Photographing the Eclipse of 1932 from the Air," November, 1932; "The Large Wading Birds," October, 1932; "Ontario, Next Door," August, 1932; "An Army Engineer Explores Nicaragua," May, 1932; "Out in San Francisco," April, 1932; "Washington Through the Years," November, 1931; "Flying the 'Hump' of the Andes," May, 1931; "Skypaths Through Latin America," January, 1931; "Gigantic Brazil and Its Glittering Capital," December, 1930; "Arizona Comes of Age," January, 1929; "Our Conquest of the Pacific," October, 1928; "By Seaplane to Six Continents," September, 1928; "Trailing History Down the Big Muddy," July, 1928; "The Mysterious Tomb of a Giant Meteorite," June, 1928; "How Latin America Looks from the Air," October, 1927; "Exploring the Earth's Stratosphere," December, 1926; "Exploring the Valley of the Amazon in a Hydroplane," April, 1926; "On the Trail of the Air Mail," January, 1926; "Pirate Rivers and Their Prizes," July, 1926; "Toilers of the Sky," August, 1925; "Non-Stop Flight Across America," July, 1924; and "Glimpses East and West in America," May, 1924.

Bulletin No. 2, January 29, 1934.

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cattle company's plant in Puerto Pinasco, two days' steamer trip above Asunción, the jungle is first cleared of quebracho trees and then cattle are turned in.

"The red variety of quebracho is rich in tannin. In the United States we obtain tannin from the bark of the oak tree, but the whole trunk of the quebracho is utilized. While logs later to be converted into tanning extract are still shipped, several factories in Paraguay manufacture the extract.

"The Chaco is uniformly flat; its climate one of extremes. It is a land of heavy rainfalls and long-continued droughts. Animal life is abundant. 'The Chaco is the sportsman's paradise,' a British enthusiast told me. 'From May to August is the best season—freer from insect pests. We go duck-shooting in flat-bottomed boats on a chain of smaller rivers and lagoons.'

"Besides duck, quail, and snipe, there is a native 'turkey of the mountain.' Tapir, deer, carpincho, otter, and coypu abound in the marshy regions. Coypu skins are exported from the lower Plata to the United States, the hair to be used in the manufacture of felt hats. In the woods roam the jaguar, puma, anteater, armadillo, the maned wolf, and the peccary, the latter always one of a troop.

"Chaco swamps teem with fish and eels. The sting ray, with a stinger rising like a fin from the base of its tail, lurks in the mud to retaliate if trodden upon by the fishermen. A common foe is the carib fish, with a bulldog jaw and triangular, razor-sharp teeth which can tear the flesh. It makes river bathing unpopular.

"At ports we were offered snakeskins nearly 20 feet long, and suspected that they had been well stretched by the natives, since the price advances with the length. Poisonous snakes, including rattlers, are a menace to the naked feet of the Indian. Snakeskins, egret skins, hides, rubber, and ipecacuanha (a root that is the source of ipecac) formed the steamer's down-river cargo."

Note: Students interested in the Chaco region, Bolivia, and Paraguay should consult: "Pieces of Silver," *National Geographic Magazine*, September, 1933; "River-Encircled Paraguay," April, 1933; "Buenos Aires to Washington by Horse," February, 1929; "By Seaplane to Six Continents," September, 1928; "How Latin America Looks from the Air," October, 1927; "The Heart of Aymara Land," February, 1927; "The New Map of South America," October, 1921; and "The Niagaras of Five Continents," September, 1920.

Bulletin No. 1, January 29, 1934.

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A COMMON SIGHT IN THE STREETS OF ASUNCIÓN TO-DAY

For almost two years warfare has been waged with Bolivia in the Chaco, and the streets of the Paraguayan capital have resounded to the tramp of marching youth.

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Georgia's Warm Springs, Where Patients "Play Polio"

MORE than 5,000 communities throughout the United States will honor President Roosevelt on his birthday, January 30, by conducting balls, dinners, and social affairs of various kinds. The proceeds from these affairs will be used to create a permanent endowment fund at the Georgia Warm Springs Foundation for Infantile Paralysis.

The date-line "Warm Springs, Ga.," is a familiar one to American newspaper readers, not only because President Roosevelt is a frequent visitor there, but also because this spa has developed, in less than seven years, into the leading American institution for the treatment of the after-effects of poliomyelitis, or infantile paralysis.

Like the English watering place Buxton (a resort near Manchester in the English "peaks district"), the chief asset of Georgia's Warm Springs is a gushing thermal spring whose extraordinarily pure mineral water comes from a great depth, and is believed to be warmed by the interior heat of the earth. The water of both the English and the Georgia spas is a beautiful tropical blue when seen in a white pool. The normal temperature of Buxton's springs is 82 degrees Fahrenheit, while that of Warm Springs is 88 degrees Fahrenheit.

Non-Profit Institution

There the comparison stops, because Georgia's Warm Springs was incorporated July 28, 1927, as a non-profit organization for the study and after-treatment of poliomyelitis—the medical term for infantile paralysis, which afflicts not only infants but persons of middle and advanced ages as well.

Patients are admitted to treatment at Warm Springs upon recommendation of their own physician, and after an examination of their case by the surgeon-in-chief. No one is accepted until after the active stage of poliomyelitis is passed. Patients at Warm Springs are incapable of giving poliomyelitis to visiting relatives or friends. They are generally persons in good health with some muscles paralyzed in varying degrees and needing restorative exercises. Everyone must pay for treatments and board, although there is an endowment fund to aid worthy cases.

To locate Warm Springs, draw a line south from Cincinnati, Ohio, and another west from Charleston, South Carolina. The two will intersect near the resort, which is situated in west-central Georgia, about seventy miles southwest of Atlanta. Warm Springs is now connected with Atlanta by a new paved road, called the "Franklin D. Roosevelt Highway." South of the town rises Pine Mountain, which attains an altitude of 1,200 feet or more above sea level.

Springs Known to Indians

The thermal springs on this site were known to the Cherokee Indians, and for more than 100 years Warm Springs enjoyed a reputation among Georgians and Alabamans as a summer resort, with bathing as one of its principal attractions. It was not until a decade ago, however, that the efficacy of its waters in the treatment of paralysis was discovered. A young man, who was carried to the resort's swimming pool in a practically helpless condition, found that he could move his limbs easily in the warm water. After three summers of exercising he was able to do away with braces and move about with the aid of a cane.

In 1924 his case came to the attention of Franklin D. Roosevelt, who had been crippled in 1921 by poliomyelitis. He came to Warm Springs, noticed improvement, and induced specialists and other patients to make a thorough test of the waters. All the patients were benefited, and as a result the Georgia Warm Springs Foundation was incorporated, many men prominent in public life and medical circles contributing money and services to the institution.

The 1,200-acre campus of the Georgia Warm Springs Foundation to-day includes a new administration building, Georgia Hall, which was donated by the citizens of Georgia; an old inn which Georgia Hall replaces); three pools, one enclosed (donated by Edsel Ford), one open, and one for those who are not patients; numerous cottages, where patients live; a small hospital; and a golf course and riding academy for visitors.

Blue Color a Mystery

The spring has a flow of about 3,000,000 gallons a day, and its water possesses many unusual properties, some of which remain unexplained. It is odorless and soft to the touch, and, while it appears indigo blue in a white tile pool, it is colorless as it gushes from the ground. The cause of the blue color is not definitely known. Recent tests show that the warm water

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Sunlight in the Sky and on low Clouds beyond Shadow
Low Clouds darkened by the Moon's Shadow
Low Clouds in
front of
Woods and Fields visible between Clouds

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ONE OF CAPTAIN STEVENS' PRIZE-WINNING PHOTOGRAPHS

Fleecy clouds record the swift approach of the moon's shadow during the eclipse of August 31, 1932. Captain Stevens was flying at an altitude of about 27,000 feet when he took this picture. The clouds, which prevented thousands on the ground from viewing the eclipse, lay more than 16,000 feet below the plane and provided a convenient "movie screen" for the aërial photographers.

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Engineering Projects of 1933

OUTSTANDING changes brought about on the face of the earth during 1933 by dynamite, steam shovels, picks and spades, riveting "guns," and concrete mixers are summarized by the research staff of the National Geographic Society.

Owing to the public works program in the United States and a number of other countries, in an effort to combat the economic depression, and to threats of war in other regions, more than the normal number of construction projects were under way in all parts of the world.

Engineering activity was especially marked in highway construction last year. In the United States work progressed in all the States on more than 3,000 separate road-building projects financed with Public Works Administration funds.

Two scenic highways of more than local interest were completed or brought close to completion: "Going-to-the-Sun" Highway in Glacier National Park, and the "Skyline Drive" along the crest of a section of the Blue Ridge Mountains in Virginia.

In South America, the most active road building has been in Colombia. One hundred and sixty-two miles of modern highway, equipped with traffic signals, was completed far inland, extending from the neighborhood of Bogotá into southern Colombia, and furnishing a means of communication with the disputed Leticia region. An 84-mile highway from Bogotá to Girardot on the Magdalena River was put into use in September.

New Highway Across Albania

Peru opened a new road from Lima to Ancon, built as a relief project. A newly completed Albanian highway, across the central part of the kingdom, shortened the journey between Tirana (see illustration, next page) and Thessalonika (Salonika). The President of Spain formally dedicated a new road in Spanish Morocco in November. It connects Ceuta and Melilla. Persia's road system was greatly improved during the year by the completion of an automobile highway over the shortest route from the capital, Tehran, to the Caspian Sea at Deh Nov.

At home, New York City began use, early in the year, of the second section of its elevated express highway, extending from 22nd to 38th Streets.

While net railway mileage increased in 1933 on several continents, especially Asia, a much greater mileage was abandoned in the United States than was built. Less than fifty miles of new track was laid in Uncle Sam's domains during the year, while more than 2,400 miles was abandoned. Railways were extended in Chile, Brazil, Peru, Uruguay, Argentina, and Colombia; in Spain and Italy; in French Morocco, Central, South, and East Africa; in Bulgaria, Yugoslavia, the Soviet Union, Poland, and Turkey; in China; and in Australia.

One of the most important railway projects undertaken during 1933 was the double-tracking of the Trans-Siberian Railroad. Details of the work have not been made public outside Russia, but reports indicate that the job has been completed between Omsk and Irkutsk.

Greatest railway activity centered during the year in Manchuria and Korea, under Japanese auspices. The link from Rashin, port of northern Korea, to central Manchuria, was put into operation, as was a 108-mile section from Tunhua (Manchuria) southeastward to the Tumeen River at the Korean border. Work is in progress on a number of other links and extensions.

Dams and Bridges Take Shape

Famous Aswan Dam across the Nile, 450 miles south of Cairo, had its second heightening job completed during the year. It will now impound more than five billion tons of water. The 20-mile dam across the Zuider Zee in the Netherlands, the last gap in which was closed in 1932, took final shape during 1933, and in September its top was officially opened to traffic.

After nearly three years of excavation and preparation of the Boulder Dam site on the Colorado River, the first concrete was poured June 6. Two years will be required to pour the 5,500,000 barrels of concrete that will go into the structure.

By means of a four-mile highway bridge, opened April 25, Venice became more closely connected with the mainland, and for the first time automobiles were driven to the edge of the island city. Three new bridges across the Thames, on the up-river outskirts of London, were put into use on July 3. Important bridges were completed during the year at such widely separated points as northern Bengal, across the Teesta River; Cairo, across the Nile; and Stockholm, Sweden. A new bridge across the Hudson at Albany was dedicated in January.

The Soviet Union completed the most important artificial waterway of the year—the Baltic-White Sea Canal, extending for approximately 150 miles from Povenletz, on Lake Onega, to Soroka, on the White Sea. It has twelve locks and fifteen dams. A huge irrigation canal 55 miles long was finished in Tadzhik Soviet Socialist Republic, near Afghanistan.

Nineteen-thirty-three saw a considerable addition to the world's tunnels. In Japan the five-mile Tanna railway tunnel was completed after sixteen years of work. In Chile, completion

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does not filter out the short-wave, ultra-violet radiation of the sun, yet ordinary cold spring water at the government fish hatcheries nearby does reduce this type of radiation to a considerable degree.

Chemical analysis reveals that the total dissolved mineral content of Warm Springs water is only 123 parts in a million by weight. The water, however, is quite buoyant. It is estimated that if this flow of water from an ordinary spring was heated by coal to 88 degrees Fahrenheit, more than 20 tons of fuel would be consumed every twenty-four hours.

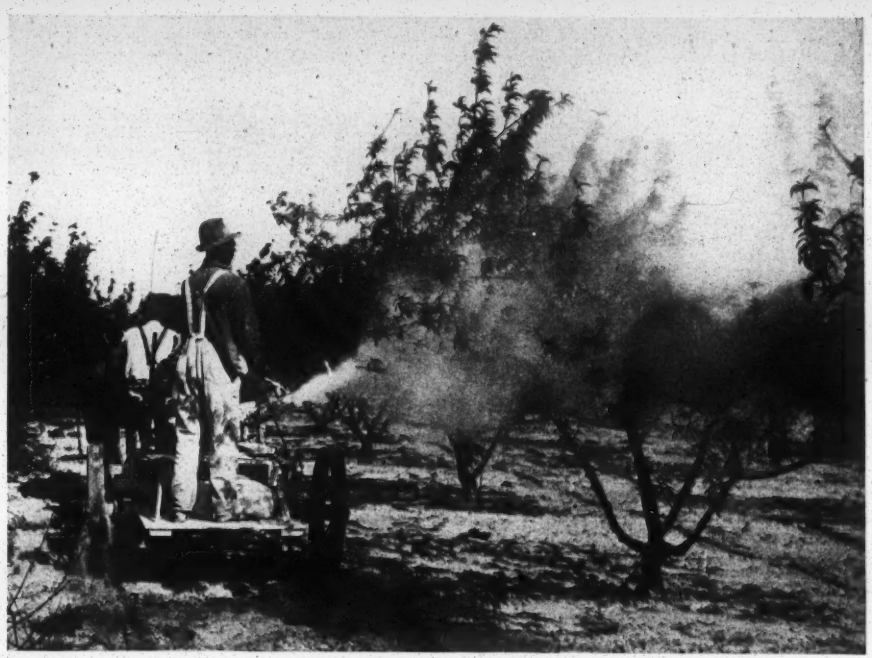
Warm Springs is unique among sanitariums in that there is nothing about the place that suggests a hospital or sanitarium. Attendants wear no standard uniform, and patients are encouraged to call each other by first names. The word "patient," in fact, is frowned upon. At Warm Springs a patient is a "Polio" (Warm Springs' abbreviation for the jaw-breaker "poliomyelitis"), and "taking the cure" is called "playing Polio." Young women who conduct the daily exercises in the pools are "Physios"—short for "Physiotherapists."

"Everything is on the level in Warm Springs," which means there are no steps nor even thresholds. The wheelchair is the almost universal means of getting about, and, as many of the patients "roll their own," ramps instead of steps take care of changes in level throughout the grounds. An "electric eye" automatically opens and closes the entrance door to the new Georgia Hall.

No rigid routine is imposed upon those who come to Warm Springs. "Playing Polio" means a short period of under-water exercises in the morning, a long rest period, outdoor walking trials in the afternoon, and social recreation in the evening. There have been no remarkable cures at Warm Springs (in fact few have ever completely recovered from the paralysis that generally follows poliomyelitis), but even a little improvement has its thrills for those stricken by the dread disease, whose cause is as yet unknown.

Note: For other Georgia references see: "Marching Through Georgia Sixty Years After," *National Geographic Magazine*, September, 1926; "Glimpses East and West in America," May, 1924; "Map-Changing Medicine," September, 1922; and "The Origin of American State Names," August, 1920.

Bulletin No. 3, January 29, 1934.



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WARM SPRINGS IS NEAR THE HEART OF THE PEACH BELT

Georgia once ranked first in the production of peaches, but has been forced into second place by California. This photograph of a workman dusting an orchard to combat insect pests was taken in Peach County, which is only 40 miles from Meriwether County, where Warm Springs is situated. Meriwether County has a large number of peach orchards.

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Granada Keeps Washington Irving's Memory Green

MORE than a century ago an American writer journeyed through Spain, writing descriptions of the places he visited. To-day the memory of this author and traveler—Washington Irving—is fresher perhaps in Spain than it is in his own country, although his stories still are schoolroom classics and are favored by fine bookbinders in this country and in England.

Recently a great fiesta, attended by more than 3,000 persons, was held in honor of Washington Irving at Granada, ancient Moorish capital whose beauties are so charmingly revealed in Irving's "Tales of the Alhambra." The American Ambassador and Mrs. Bowers took part in the ceremonies, which included the renaming of the principal street leading to the Alhambra as "Washington Irving Avenue."

In contrast to conditions as Irving found them, the thoroughfares of Granada to-day are paved and clean, and there is a prosperous appearance about everything in this provincial Spanish capital of more than 103,000 inhabitants. Streets are crowded and there are many automobiles, mostly of American make, and some fine new buildings, modern shops, etc.—all lending a Madrid-like atmosphere unfamiliar to most cities of southern Spain.

Moorish Flavor Still Strong

Although the main avenues are wide and modern, it is like entering another world to turn down one of the narrow streets and peep through doorways into lovely patios full of flowers, palms, and orange trees, all guarded by beautiful wrought-iron doors.

The trace of the Moors is so strong that one instinctively looks for long white robes and turbaned heads.

Here and there, in shops and out on the sidewalks, sit girls making the justly-famed Granada lace. They stretch silk tulle on large frames and weave into it pretty designs, for small handkerchiefs, and much more elaborate motifs for tablecloths and curtains. Their chief work, however, is the manufacture of Spanish shawls or *mantillas*.

The sight of sights in Granada, of course, is the Alhambra, exquisite palace of the Moorish kings. First one is escorted up a hill to the wonderful gardens of the Generalife, where the fountains play in the bright sunshine. The tourist way then leads down shady paths to the old Moorish Gate of Justice, with its large horseshoe portal—the entrance to the Alhambra.

One pays the uniformed guard a peseta as entrance fee to the palace, and 50 céntimos for a "kodak fee," and is conducted to a small, mean door.

Riot of Delicate Arabesques

He enters, and lo, a veritable scene from the Arabian Nights! The Court of the Myrtles dazzles one's eyes in its quiet, though gay, beauty. Its long quadrangular pool of crystal-clear water, where 200 slave girls used to bathe, is surrounded by a low, square-cut hedge of myrtles. The big, heavy tower of Comares in the background is reflected in the water as if it were a vast mirror, the effect being reminiscent of the Taj Mahal, though lacking the graceful minarets.

Around the court are delicate arches, walls, and balconies, in which the restless fancy of the Moorish workman seems to have run riot in intricate arabesques,

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of the three-mile Las Raices Tunnel gives a direct rail connection between southern Chile and southern Argentina. Spain completed a two-and-a-half-mile tunnel between Burgos and Madrid. In Africa, "holing through" of the Mount Bomba Tunnel removed the greatest rail-traffic obstacle between Brazzaville, French Equatorial Africa, and the Atlantic. A mile-long double tunnel, under the River Scheldt at Antwerp, Belgium, was opened in August.

Outstanding harbor development during the year was at Haifa, Palestine, where breakwaters and quays were completed and the harbor dredged. Special oil loading equipment is provided to take care of the petroleum that will flow to Haifa through the 617-mile British pipe-line from Iraq, now nearing completion. The French pipe-line, 531 miles long, from the Iraq petroleum fields to Tripoli, Syria, was finished during the year.

Subways were extended in three of the great cities of the world: New York, London, and Paris; and opened for the first time in Osaka, Japan. Work progressed rapidly during 1933 on the new subway system for Moscow.

Note: For data and pictures of some of the countries in which engineering projects have been completed or advanced during 1933 see: "New York—An Empire Within a Republic," *National Geographic Magazine*, November, 1933; "Chosen (Korea)—Land of Morning Calm," October, 1933; "A New Country Awaits Discovery (Zuider Zee, Netherlands)," September, 1933; "Japan, Child of the World's Old Age" and "Motor Trails in Japan," March, 1933; "Here in Manchuria," February, 1933; "Out in San Francisco," April, 1932; "Some Forgotten Corners of London," February, 1932; "Byroads and Backwoods of Manchuria," January, 1932; "Citroën-Haardt Trans-Asiatic Expedition Reaches Kashmir (Persia)," October, 1931; "Europe's Newest Kingdom (Albania)," February, 1931; "This Giant That Is New York," November, 1930.

Bulletin No. 4, January 29, 1934.

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TIRANA, ONE OF EUROPE'S LEAST-KNOWN CAPITALS

Last year this rapidly-changing capital of the Kingdom of Albania was connected with the Aegean seaport of Thessalonika (Salonika) by a new motor highway. Tirana was chosen as the Albanian capital because it lies about midway between the north and the south boundaries.

blending curious geometrical figures and simple foliage in an endless variety of designs in stone, plaster, marble, and wood.

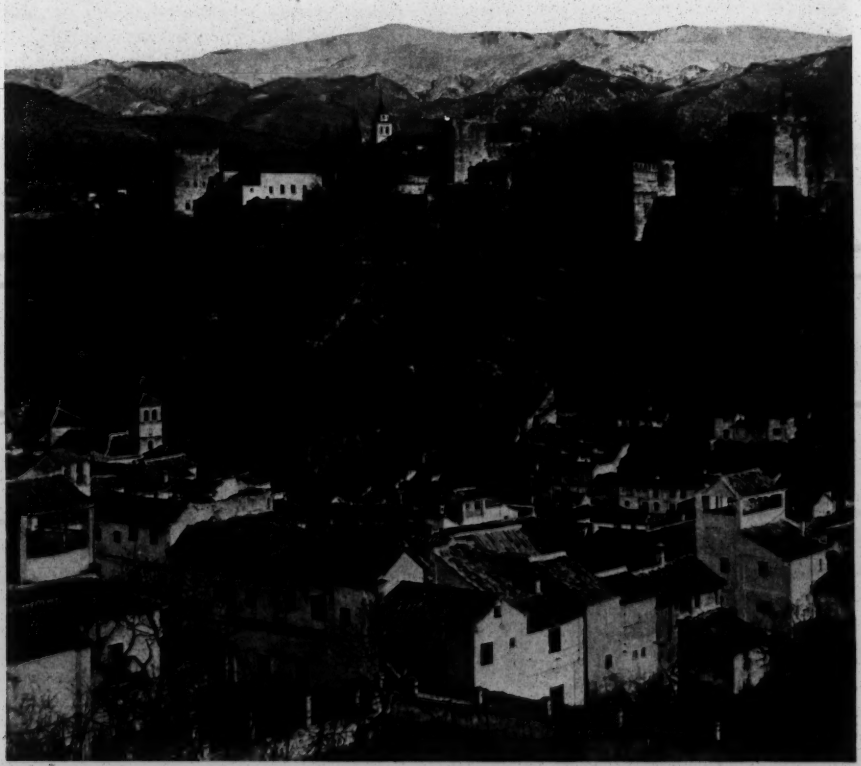
In all this lacelike work of the ancient artificers, there is never a reproduction of a living creature, though there often occur quaint oriental inscriptions in Arabic, many of them proclaiming, "There is no conqueror but the Most High God."

From the Hall of the Ambassadors one obtains an idea of the massiveness of the walls of this venerable place, where the window recesses are so deep as themselves to form small rooms. These windows afford an entrancing view far down upon the housetops of Granada, the old Albaicin quarter, and the valley of the Darro.

Passing through the tiny little garden of Irving's imaginary Moorish beauty, Lindaraja, one comes to the ancient baths. First, there is a tiny one in stone and marble for the children of the sultan; then a larger one for the sultana, and lastly a huge one, almost a swimming tank, for the sultan himself, with three faucets—hot, cold, and one for perfume!

Note: See also "On the Bypaths of Spain," *National Geographic Magazine*, March, 1929; "Seeing the World from the Air," March, 1928; "Looking Down on Europe," March, 1925; "From Granada to Gibraltar," August, 1924; "Progressive World Struggle of the Jews," July, 1919; and "Color Insert," March, 1917.

Bulletin No. 5, January 29, 1934.



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"CASTLES IN SPAIN"—THE ALHAMBRA OVERLOOKING GRANADA

Like the Acropolis at Athens, or Edinburgh Castle at Edinburgh, the majestic Alhambra dominates the red tile roof-tops of the city at its feet. This palace of the Moorish kings was not the creation of a single ruler. It was probably begun about the middle of the thirteenth century and was under construction for many decades. Its full Moorish name—"Khalat al-Hamra"—means "Red Castle," from the color of its stones.